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## How to connect an Epson TM Series Printer with a Wireless Adapter

### Printers

TM-U220

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TM-U200

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### Overview

Wireless connection allows you to locate the printer anywhere where there's power - no need to worry about printer cables.

A wireless printer replaces the traditional data cable with wireless adapters on the computer and printer, linked with a radio signal. Once a wireless connection is established it offers a way to print documents without a direct connection.

### Required Components

- Epson POS Printer with Connect-It wireless adapter (UB-R02, UB-R03 or equivalent)
- Windows computer with wireless adapter or wireless router

### Epson Printers Covered

- TM-T88III
- TM-T88IV
- TM-T88V
- TM-U220
- TM-U230
- TM-U590
- TM-U675
- TM-H6000III

### Installing and Setting the Connect-It Wireless Adapter

Install the Connect-It wireless adapter into the Epson TM series printer



The adapter can replace the existing adapter and is held in place by 2 screws.

Note: the wireless adapter requires more power than other types of adapters (serial, parallel). If the printer fails to work after installing the wireless adapter, try a different power supply (such as the Epson PS-180).

If changing a printer to wireless you must change the specific dip switch on the Epson printer to allow for the wireless card.

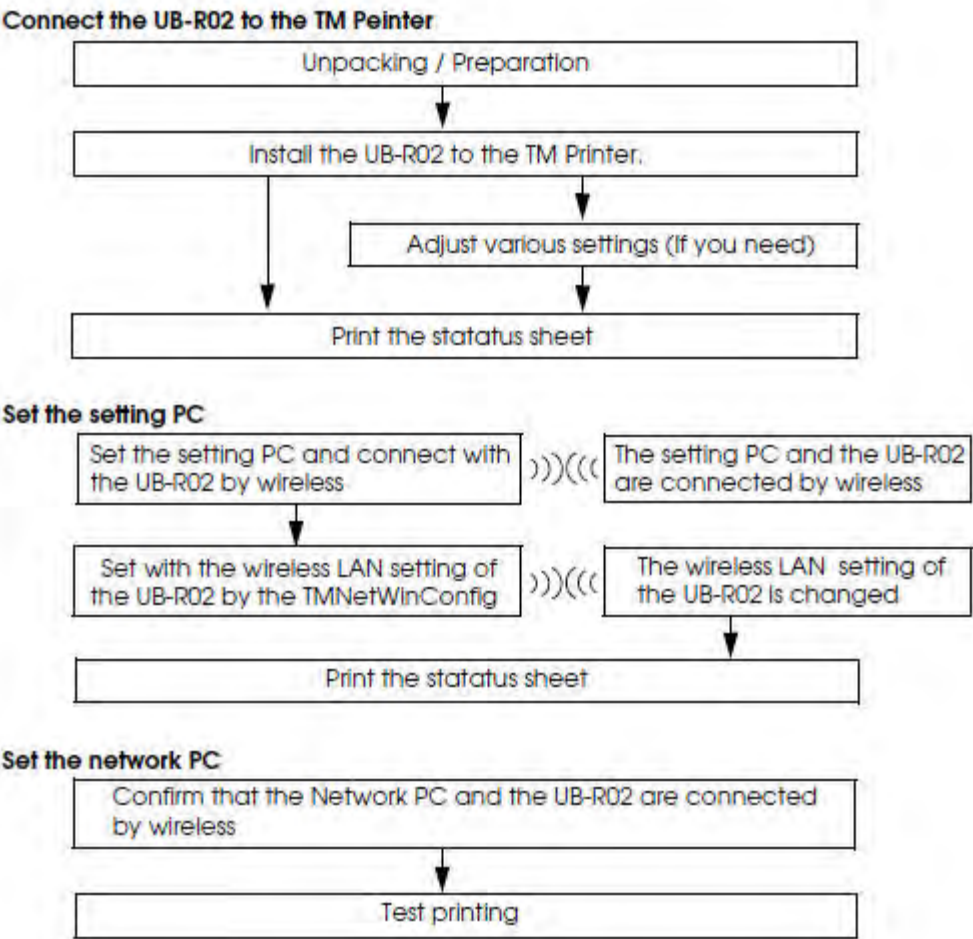
| Model                   | Setting        |
|-------------------------|----------------|
| TM-U200 Series          | DIP SW 2-8: ON |
| TM-U210 Series          | DIP SW 2-8: ON |
| TM-U220 Series (STD) *1 | DIP SW2-8: ON  |
| TM-U220 Series (US) *1  | DIP SW2-4: ON  |
| TM-U230 Series          | DIP SW 2-4: ON |
| TM-U325 Series          | DIP SW 2-8: ON |
| TM-U590 Series          | DIP SW 2-8: ON |
| TM-U675 Series          | DIP SW 2-8: ON |
| TM-T88/T88II/T88III     | DIP SW 2-8: ON |
| TM-T90                  | MSW 1-8: ON    |
| TM-H5000/H5000II        | DIP SW 2-8: ON |
| TM-H6000/H6000II        | DIP SW 2-8: ON |
| TM-J7000/J7100          | MSW 1-8: ON    |
| TM-J7500/J7600          | MSW 1-8: ON    |
| TM-J2000/J2100          | MSW 1-8: ON    |
| TM-L90                  | MSW 1-8: ON    |

(Key: *DIP SW2-8 On*: refers to the switch number 8, on switch bank 2, is turned On)

**Network Setup**

The wireless adapter can be "connected" via a wireless adapter installed in a computer or through a wireless router. To set the settings on the adapter you must first connect to the adapter using its current settings. Configuration of the adapter is is done from a computer using the TMNet utility.

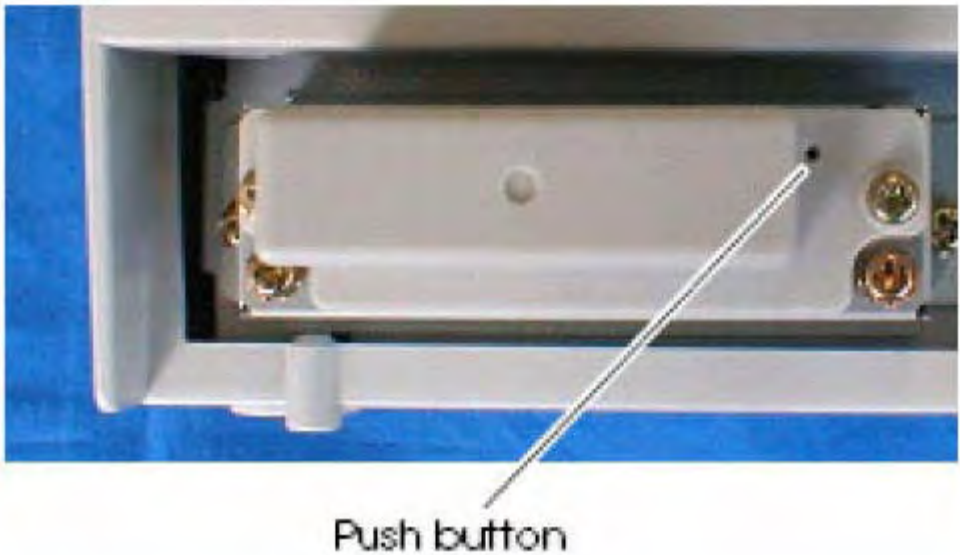
Outline of the Process:



**Getting Initial Printer and Wireless Adapter Settings**

Get the initial settings of the wireless adapter. Run the printer self test (hold down the feed button while turning on the printer). The printer will print a list of initial settings including SSID (network ID), Mode (Ad-Hoc or Infrastructure), current IP address (default: 192.168.192.168)

A similar test can them be done on the UB-RO2 adapter by inserting a paperclip through the small hole in the adapter for 3 seconds.



A sheet will print showing the MAC address, SSID, mode, wireless channel number, authorization method (None, WEP), Gateway (GW), IP address and IP assignment method.

```
*****
MAC: **: **: **: **: **: **
HW/SW: 1.00/1.20
WLAN: 4.4.1/8.10.1
SSID: EpsonNetIBSS
Mode: Ad-hoc
Link: Connect *1
Channel: 11
Tx Rate: Auto
RTS Thresh.: 512
AP Density: Low
Auth.: Open System
WEP: OFF
AP: **-**-**-**-**-**

GET IP: Manual
APIPA: OFF
PING: OFF
IP: 192.168.192.168
Mask: 255.255.255.0
GW: 0.0.0.0

Legacy APD: OFF
Factory 1: ON
*****
```

The network specific settings have been highlighted above.

**Resetting Card to Default Values**

You can reset the card to the default settings by:

- 1. Turn off power on the printer
- 2. Hold the push button on the wireless card down
- 3. Turn on power to the printer
- 4. Count to 5

Check that the settings are reset by running the wireless card self-test, above.

| Parameter       | Initial Value   | Setting Instructions                               |
|-----------------|-----------------|----------------------------------------------------|
| Network Mode    | AdHoc           | Infrastructure / AdHoc                             |
| SSID            | EpsonNetIBSS    | Set this according to the system or leave as is.   |
| IP-Address      | 192.168.192.168 | Set this according to your network.                |
| Subnet mask     | 255.255.255.0   | Set this according to your network or use default. |
| Gateway address | 0.0.0.0         | Set this according to your network.                |
| IP-Address      |                 | Auto / Manual. set this according to the way       |

|             |        |                                                                                                                                  |
|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| setting     | Manual | IP addresses are assigned on your network.                                                                                       |
| Use WEP key | None   | None / 64-bit / 128-bit                                                                                                          |
| WEP Key     | None   | set this if key is used                                                                                                          |
| Channel     | 11     | Channels 1-11. When using Ad-Hoc mode, set the channel directly. When using in the infrastructure mode, it is set automatically. |

Configuring a Computer or Router

There is no way to change the settings on the wireless adapter directly. You first must connect to a computer and then change any settings using the **Epson TMnet** utility. This means that you must modify your computer's or router's wireless settings to work with the adapter to make changes on the wireless adapter to work on your network. After the changes are made you can reset your network to its original settings.

Tip: It may be less disruptive to configure the wireless adapter using a different computer or network from the one it is to be installed on.

The wireless adapter defaults to Ad-Hoc mode, with a SSID of *EpsonNETIBSS*, IP address of *192.168.192.168* and no encryption.

Configuring a Wireless Router

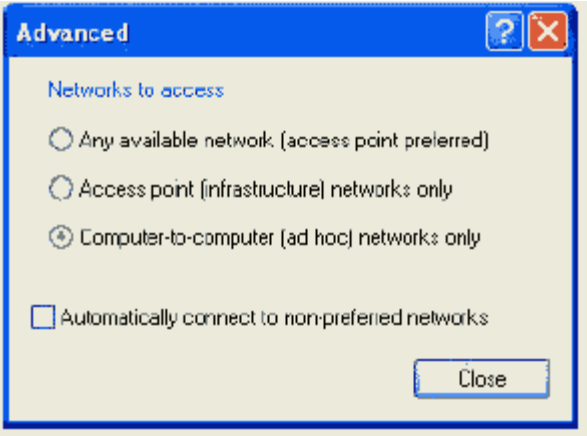
If you are using a wireless router to connect with the printer:

- Select AD-Hoc mode
- Set the subnet to work in the address range of the wireless adapter (192.168.191.xxx if using default value)
- Make sure the wireless broadcast is on
- Turn off encryption or WEP
- Turn off firewalls and filtering

Configuring a Computer with a Wireless Adapter

If you are using a wireless adapter installed in a computer to connect with the printer:

1. Install the wireless adapter on the computer if not already installed
2. Change the wireless adapter to Ad-Hoc. Open up the Wireless Adapter tab and press Advanced. Then change the



Networks to access to ad-hoc.

3. Open the *Wireless Adapter Properties* in the *Network Connections* of the Windows Control Panel. If the first three numbers of your IP Address are 192.168.192 (assuming the wireless adapter is set at the default IP address of 192.168.192.168) then you do not need to reconfigure your computer's IP Address. If the first three numbers of

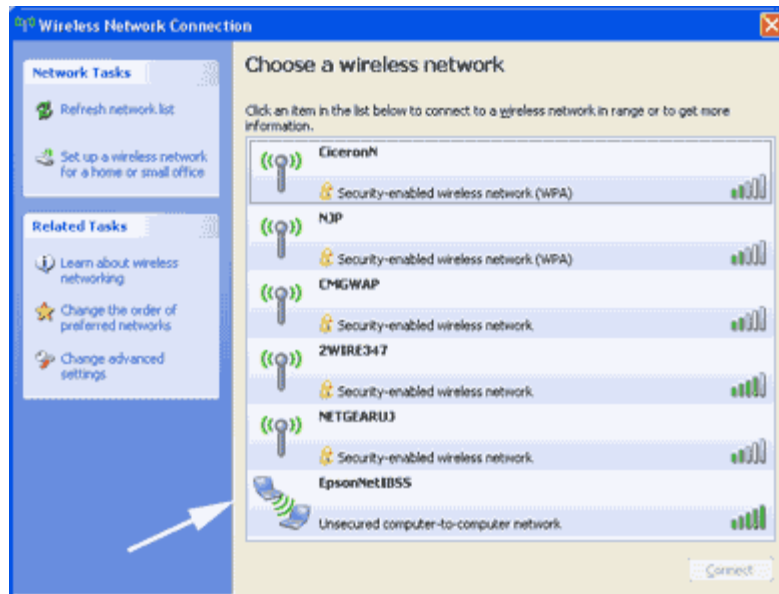
your IP Address are not 192.168.192, (Ex. 192.168.1), then you need to change your computer's IP address to an address in the same subnet. Change the IP address to a static IP address. Then make the IP address of the adapter different than the wireless adapter (like 192.168.192.2). *Do not set the computer to the same address as the wireless adapter on the printer.*

4. Disable the computer's wired network adapter (Local Area Connection) if installed (The TMnet utility doesn't seem to work when there is also a live wired network card enabled)

## Making the Initial Connection from the Computer to the Printer

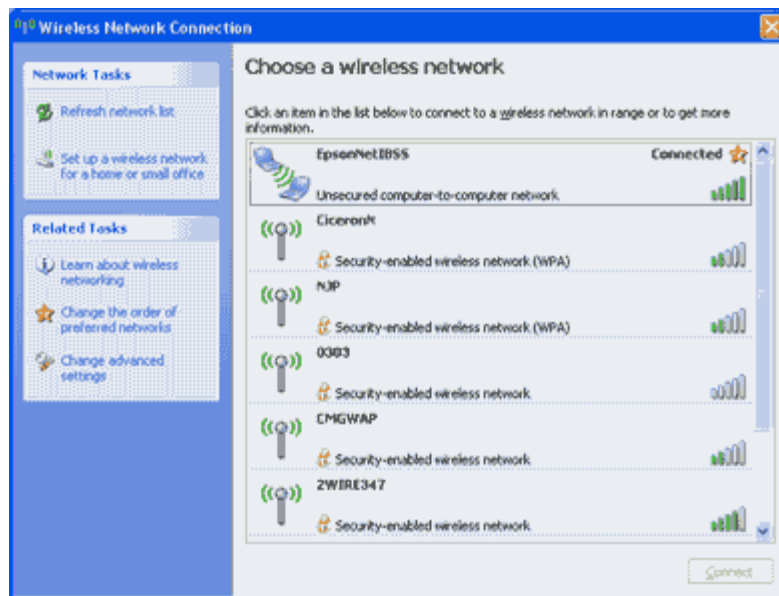
If you are using a wireless adapter installed in a computer to connect with the printer you can now make the initial connection to the printers.

Open up the View Wireless Networks in the Wireless Adapter properties.



The printer will be visible as *EpsonNETIBSS* as a "unsecured computer-to-computer network" (with the default settings).

Click on the connection to connect to the printer:



This should establish the connection between the printer and the computer.

## Verifying the Connection from the Router to the Printer

If you are using a wireless router then you should verify that the printer is connected to the router.

- Turn the printer on
- Log onto the router administration from a computer on the network.
- Check the wireless device status
- Verify that the printer is communicating with the router by finding the IP address or MAC address of the printer in the wireless device connection list on the router. If the device is not listed see the troubleshooting steps below.



Look for IP or MAC address of adapter on router

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### Pinging the Printer

You can verify the printer is connected to the computer by pinging the printer from the computer. Open up a command window and enter:

ping <IP\_address>

where <IP\_address> is the IP address of the printer (i.e. 192.168.192.168).

The printer should reply to ping requests. Repeated timeouts indicate that the printer is not connected. If the printer does not reply verify the IP address of the printer and the Ping setting on the Wireless adapter properties.

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### Configuring the Adapter with TMNet

#### Running the TMNet configuration utility on the Computer

You can run the TMNet configuration utility on your computer to view or change the settings on the wireless card. This utility will scan for the wireless printers on your network and allow you to make changes to the adapter's settings.

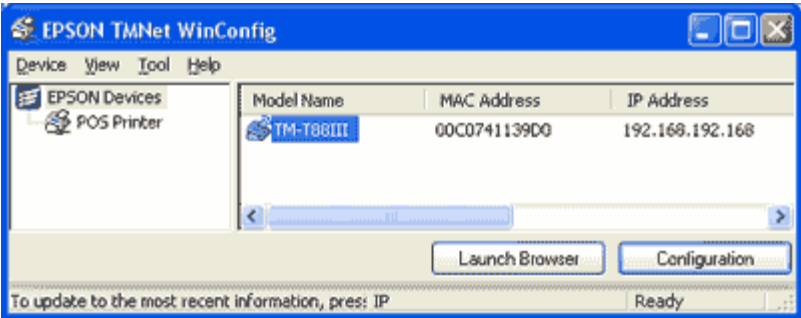
To obtain the TMNet configuration utility from Epson's website:

1. You may have to re-enable your wired LAN port to download the EpsonTMNetWinConfig utility.
2. Download and Install Epson's TMNetWinConfig available from [www.epsonexpert.com](http://www.epsonexpert.com)
3. You **WILL be REQUIRED** to log in to access these drivers.
4. If you do not have a log in, you will be required to register for this service (this is free and takes

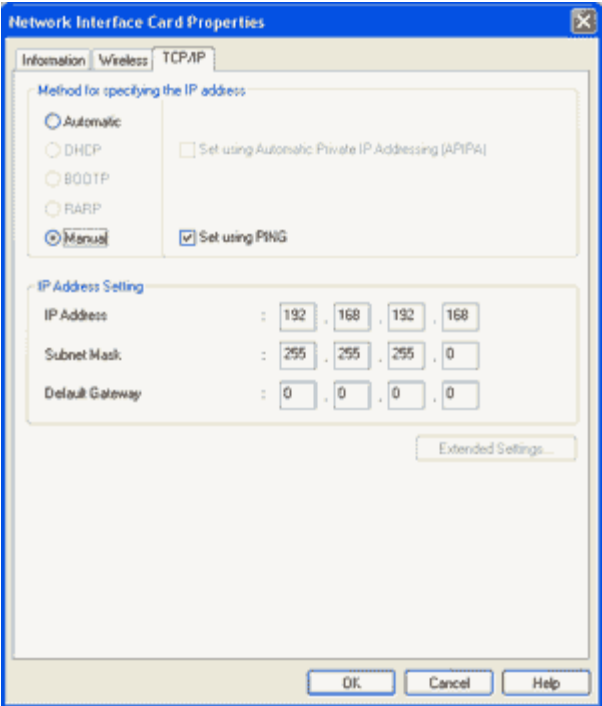


- less than 10 minutes). This is a process controlled by Epson not Beagle Hardware.
5. Click on **TECHNICAL RESOURCES**
  6. Select **WIRELESS INTERFACES** under the **CONNECT-IT INTERFACES**
  7. Click the **download icon for the TMNetWinConfig**
  8. **For detailed installation instructions, click here.**

The utility will scan for and will list the wireless printers.



Select the printer and press Configuration to view or change settings.

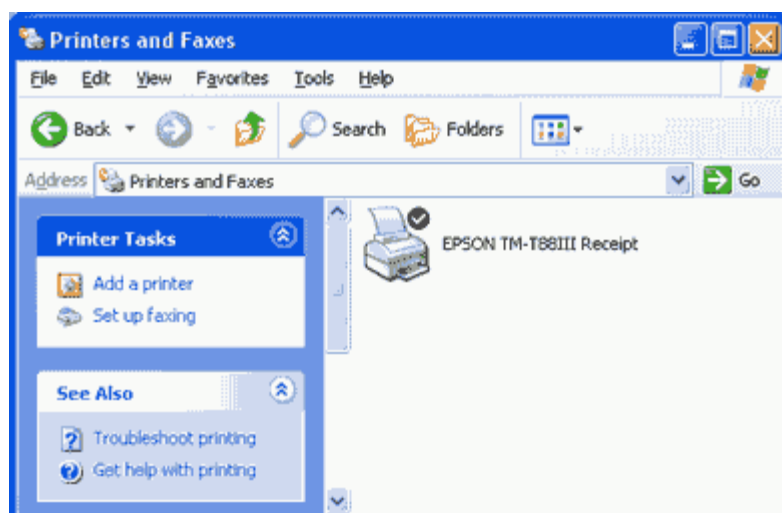


When you make changes and press 'OK' the utility sends the new settings to the printer and resets the printer. Note: the default password is <blank>. Don't forget to make the same changes on the computer side to maintain connectivity.

### Installing the Printer Driver in Windows

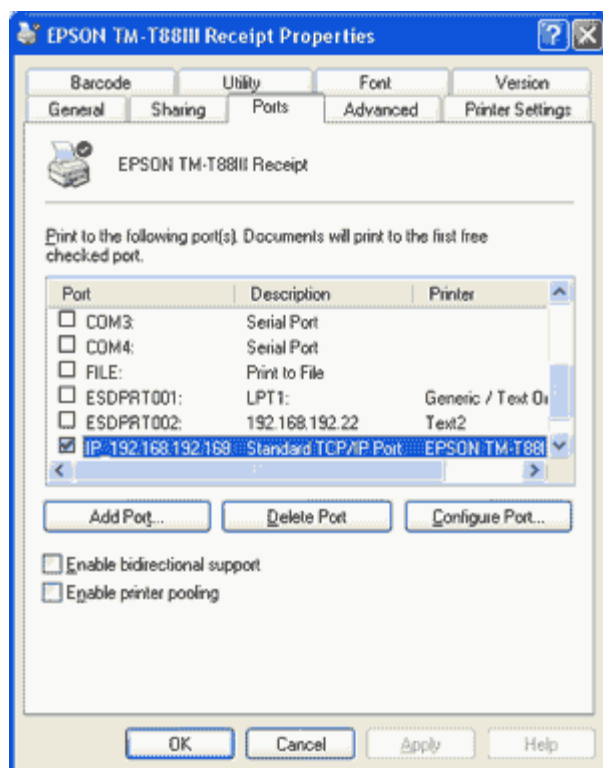
The printer drivers are available directly from the Epson Expert site (see the instructions above). Select the printer you are using to get the drivers to work with wireless adapter. The printer should be visible in the printers folder of the Windows Control Panel.



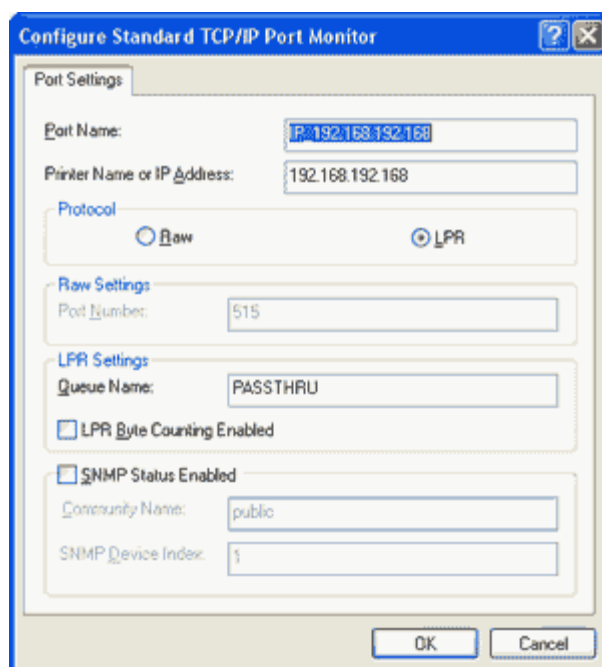


### Configuring the Printer in Windows

You need to make a few changes in the printer settings to get it to work with the wireless adapter. Specifically you need to configure the port you are using. Open the printer in the Windows Printer Folder. Select the Ports Tab. Turn off *bidirectional support*, if enabled.



You must now add the port as a TCP/IP port. Press "Add Port" and select "Standard TCP/IP Port", then select "New Port". This will open up the Add Standard TCP/IP Printer Port Wizard. Enter the IP address of the wireless adapter (default: 192.168.192.168). The utility will then locate the printer on the wireless network and create the port. This port (IP\_...) will now be selected for use with this printer.



## Testing the Printer

You should now be ready to test the printer by printing some text.

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## Troubleshooting

### Connectivity Problems

- The wireless adapter has not been configured to work on your local network. Confirm network settings using the adapter self test.
- There is no wireless device for the adapter to talk to. Check for the adapter's presence by looking for its IP address or MAC address on the computer's wireless adapter or wireless router's listing of active connections.
- The computer is unable to connect to the printer over the network. Test connectivity with ping and/or TMNet.
- The IP address of the adapter has changed. Check IP settings.
- IP address setting is not correct. Confirm that the IP address assigned by the network is set for the wireless adapter.
- Subnet mask setting is not correct. Confirm that the subnet mask assigned by the network is set for the wireless adapter.
- The IP address is set redundantly. When the same IP address is used for more than one device in the network, communication is not possible. Confirm the settings for the other devices. The same default IP address is set for all wireless adapter units as the factory setting. Do not use more than one printer with the wireless adapter on the same network without changing the IP address.
- The Epson printer driver has not been installed for the wireless adapter and printer in use.
- The network mode is not correct. If the computer is in the AdHoc mode, the wireless adapter must be in the AdHoc mode. If the computer is in the Infrastructure mode, the wireless adapter must be in the Infrastructure mode.
- The network name (SSID) is not correct. In the AdHoc mode, set the same value for the names of all PCs in the network and the network name (SSID) for the wireless adapter. In the Infrastructure mode, set the same value for the network name (SSID) as the name of the host computer in the network. When the network authentication is set, set it to the same setting as that of the host computer.

- WEP key setting is not correct. If setting is not possible, initialize the wireless adapter. Install the wireless adapter in the TM printer, turn the power on, and press the Mode button of the wireless adapter for more than three seconds to re-initialize the wireless adapter.
- Channel setting is not correct. In the AdHoc mode, communication is not possible when different channels are set for the computer and the wireless adapter. Set the same channel for both of them.

**Wireless Problems**

The wireless adapter is out of the wireless communication range.

- Move the wireless adapter near the access point or the computer.
- When TMNet is installed on the network computer, you can measure the strength of the signal.

The Information-Signal Condition of the TMNet on the network computer is “No Connection.”

- See The Information-Signal Condition of the TMNet is “No Connection.” in the TMNet utility

There is interference with another network.

- When there are more than one wireless LAN networks on the same floor and the same channel is used, interference occurs. When the channels are close to each other, interference may occur. In this case, the channel setting needs to be changed on one device.

**No longer prints**

- The TM printer is turned off. Turn on the TM printer. Confirm the connection of the power supply unit or the voltage of the commercial power.
- The TM printer is offline. Turn the TM printer online.
- The ERROR LED of the TM printer is on or flashing. Remove the error cause.
- The printing port of the driver on the computer side is not specified correctly. Confirm the driver setting on the computer side.
- The wireless adapter is out of the wireless communication range. Move the wireless adapter near the access point or computer.
- The wireless LAN setting is not correct. Confirm that the wireless LAN setting for the wireless adapter and the settings for the access point and computer are correct.

**Printing is slow**

- The strength of the signal is weak. When the strength of the signal is weak, the communication speed goes down. Confirm the Information-Signal Condition of the TMNet. When it is “Poor,” move the wireless adapter closer to the access point or computer. When TMNet is not installed on the network computer, you cannot measure the strength of the signal, so just move the wireless adapter closer to the access point or computer.
- There are problems with the computer or network. Printing speed may go down due to problems with the network system or applications.

**More Information**

Epson Printers

Epson Interfaces

Support Information



E-Mail: [info@beaglehardware.com](mailto:info@beaglehardware.com)

Call: **800-253-6407**

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Rating: **A+**

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